In the Claims

Claim 48 is currently amended.

Claim 49 is cancelled without prejudice.

Claims 1-48 and 50-60 remain in the application and are listed below.

CLAIMS

1. (Original) A system comprising:

a stage assembly comprising a plurality of stages configured to receive data that is to be processed by a rasterization pipeline;

an arbitrary ordering component operably associated with the stage assembly;

a rasterization pipeline comprising a plurality of components configured to process data from the stage assembly; and

the arbitrary ordering component being configured to enable an arbitrary order of components of the rasterization pipeline to be specified for processing data from the stage assembly.

2. (Original) The system of claim 1, wherein the data comprises pixel data.

3. (Original) The system of claim 1, wherein the rasterization pipeline comprises at least one alpha blending component, and the arbitrary ordering component is configured to enable the alpha blending component to process the data before another component of the rasterization pipeline.

4. (Original) The system of claim 1, wherein at least some of the stages have an output line that can route data to a next stage and to the arbitrary ordering component.

5. (Original) The system of claim 1, wherein at least some of the stages have an input line that can receive data from a previous stage, or from the arbitrary ordering component.

6. (Original) The system of claim 1, wherein at least some of the stages have (a) an output line that can route data to a next stage and to the arbitrary ordering component, and (b) an input line that can receive data from a previous stage, or from the arbitrary ordering component.

7. (Original) A computing system comprising:

one or more processors;

one or more computer-readable media for holding computer-readable instructions that are executable on the one or more processors;

a graphics subsystem operably coupled with the one or more processors and comprising:

a stage assembly comprising a plurality of stages configured to receive data that is to be processed by a rasterization pipeline;

an arbitrary ordering component operably associated with the stage assembly;

a rasterization pipeline comprising a plurality of components configured to process data from the stage assembly; and

the arbitrary ordering component being configured to enable an arbitrary order of components of the rasterization pipeline to be specified for processing data from the stage assembly.

8. (Original) The system of claim 7, wherein the data comprises pixel data.

9. (Original) The system of claim 7, wherein the rasterization pipeline comprises at least one alpha blending component, and the arbitrary ordering component is configured to enable the alpha blending component to process the data before another component of the rasterization pipeline.

10. (Original) The system of claim 7, wherein at least some of the stages have an output line that can route data to a next stage and to the arbitrary ordering component.

11. (Original) The system of claim 7, wherein at least some of the stages have an input line that can receive data from a previous stage, or from the arbitrary ordering component.

12. (Original) The system of claim 7, wherein at least some of the stages have (a) an output line that can route data to a next stage and to the arbitrary ordering component, and (b) an input line that can receive data from a previous stage, or from the arbitrary ordering component.

13. (Original) The system of claim 7, wherein the rasterization pipeline comprises components selected from a group of components comprising: at least one fog component, at least one alpha blending component, and at least one texture component.

14. (Original) The system of claim 7, wherein the rasterization pipeline comprises components selected from a group of components comprising: at least one fog component, at least one alpha blending component, at least one specular component and at least one texture component.

15. (Original) A system comprising:

a stage assembly comprising a plurality of stages configured to receive data that is to be processed by a rasterization pipeline;

an arbitrary ordering component operably associated with the stage assembly;

a rasterization pipeline comprising a plurality of components configured to process data from the stage assembly, said plurality of components comprising at least one fog component, at least one alpha blending component, and at least one texture component; and

the arbitrary ordering component being configured to enable an arbitrary order of components of the rasterization pipeline to be specified for processing data from the stage assembly such that the alpha blending component need not be the last component of the rasterization pipeline to process the data.

16. (Original) The system of claim 15, wherein the arbitrary ordering component is programmable.

17. (Original) The system of claim 15, wherein the arbitrary ordering component comprises an assembly of multiplexers interposed between the stage assembly and the rasterization pipeline.

18. (Original) The system of claim 15, wherein the data comprises pixel data.

19. (Original) The system of claim 15, wherein at least some of the stages have an output line that can route data to a next stage and to the arbitrary ordering component.

20. (Original) The system of claim 15, wherein at least some of the stages have an input line that can receive data from a previous stage, or from the arbitrary ordering component.

21. (Original) The system of claim 15, wherein at least some of the stages have (a) an output line that can route data to a next stage and to the arbitrary ordering component, and (b) an input line that can receive data from a previous stage, or from the arbitrary ordering component.

22. (Original) A computer system embodying the system of claim 15.

23. (Original) A three-dimensional, computer graphics system comprising a rasterization pipeline having multiple components, and means for routing pixel data to individual components of the rasterization pipeline in no particular fixed order.

24. (Original) The system of claim 23, wherein the multiple components comprise at least a fog component.

25. (Original) The system of claim 23, wherein the multiple components comprise at least an alpha blending component.

26. (Original) The system of claim 23, wherein the multiple components comprise at least a texture component.

27. (Original) The system of claim 23, wherein the multiple components comprise at least a fog component and at least a texture component.

28. (Original) The system of claim 23, wherein the multiple components comprise at least a fog component and at least an alpha blending component.

29. (Original) The system of claim 23, wherein the multiple components comprise at least a specular component.

30. (Original) The system of claim 23, wherein the multiple components comprise at least a specular component and an alpha blending component.

31. (Original) A three-dimensional, computer graphics system comprising a rasterization pipeline having multiple components, and multiple multiplexers for arbitrarily routing pixel data to individual components of the rasterization pipeline.

32. (Original) A system comprising:

a stage assembly comprising a plurality of stages configured to receive data that is to be processed by a rasterization pipeline;

an arbitrary ordering component operably associated with the stage assembly, the arbitrary ordering component comprising a first group of multiplexers and a second group of multiplexers;

a rasterization pipeline comprising a plurality of components configured to process data from the stage assembly;

the first group of multiplexers having individual inputs received from the stage assembly and individual outputs provided to the rasterization pipeline; and

the second group of multiplexers having individual inputs received from the rasterization pipeline and individual outputs provided to the stage assembly.

33. (Original) The system of claim 32, wherein each individual component of the rasterization pipeline has an associated first group multiplexer from which it receives an input.

34. (Original) The system of claim 32, wherein each individual input of a multiplexer of the second group is associated with a different component of the rasterization pipeline.

35. (Original) The system of claim 32, wherein each individual component of the rasterization pipeline has an associated first group multiplexer from which it receives an input, and each individual input of a multiplexer of the second group is associated with a different component of the rasterization pipeline.

36. (Original) The system of claim 32, wherein the data comprises pixel data.

37. (Original) The system of claim 32, wherein the rasterization pipeline comprises at least one alpha blending component, and the arbitrary ordering component is configured to enable the alpha blending component to process the data before at least one other component of the rasterization pipeline.

38. (Original) The system of claim 32, wherein at least some of the stages have an output line that can route data to a next stage and to the multiplexers of the first group of multiplexers.

39. (Original) The system of claim 32, wherein at least some of the stages have an input line that can receive data from a previous stage, or from a multiplexer of the second group of multiplexers.

40. (Original) A computer system comprising:

one or more processors;

one or more computer-readable media for holding computer-readable instructions that are executable on the one or more processors;

a graphics subsystem operably coupled with the one or more processors and comprising:

a stage assembly comprising a plurality of stages configured to receive data that is to be processed by a rasterization pipeline;

an arbitrary ordering component operably associated with the stage assembly, the arbitrary ordering component comprising a first group of multiplexers and a second group of multiplexers;

a rasterization pipeline comprising a plurality of components configured to process data from the stage assembly;

the first group of multiplexers having individual inputs received from the stage assembly and individual outputs provided to the rasterization pipeline; and

the second group of multiplexers having individual inputs received from the rasterization pipeline and individual outputs provided to the stage assembly.

41. (Original) The computer system of claim 40, wherein each individual component of the rasterization pipeline has an associated first group multiplexer from which it receives an input.

42. (Original) The computer system of claim 40, wherein each individual input of a multiplexer of the second group is associated with a different component of the rasterization pipeline.

43. (Original) The computer system of claim 40, wherein each individual component of the rasterization pipeline has an associated first group multiplexer from which it receives an input, and each individual input of a multiplexer of the second group is associated with a different component of the rasterization pipeline.

44. (Original) The computer system of claim 40, wherein the data comprises pixel data.

45. (Original) The computer system of claim 40, wherein the rasterization pipeline comprises at least one alpha blending component, and the arbitrary ordering component is configured to enable the alpha blending component to process the data before at least one other component of the rasterization pipeline.

46. (Original) The computer system of claim 40, wherein at least some of the stages have an output line that can route data to a next stage and to the multiplexers of the first group of multiplexers.

47. (Original) The computer system of claim 40, wherein at least some of the stages have an input line that can receive data from a previous stage, or from a multiplexer of the second group of multiplexers.

48. (Currently Amended) A method comprising:

receiving pixel data that is to be processed by a rasterization pipeline having a plurality of components; ~~and~~

routing the pixel data, using an arbitrary ordering component, to one of a plurality of rasterization pipeline components, wherein said routing can comprise routing the pixel data to an alpha blending component prior to routing the pixel data to another component of the rasterization pipeline; and

routing resultant data, using the arbitrary ordering component, back to a stage assembly comprising a plurality of stages that are configured to receive pixel data.

49. (Cancelled)

50. (Original) The method of claim 48 further comprising routing resultant data, using the arbitrary ordering component, back to a stage assembly comprising a plurality of stages that are configured to receive pixel data, and wherein said routing of the resultant pixel data comprises selecting at least one multiplexer sufficient to route the pixel data to the stage assembly.

51. (Original) The method of claim 48, wherein the rasterization pipeline comprises components selected from a group of components comprising a texture component and a fog component.

52. (Original) The method of claim 48, wherein said routing comprises selecting at least one multiplexer sufficient to route the pixel data to a rasterization pipeline component.

53. (Original) A method comprising:

receiving, in a stage assembly, pixel data that is to be processed by a rasterization pipeline having a plurality of components comprising at least a texture component, a fog component and an alpha blending component;

selecting a first multiplexer, whose inputs are received from different stages of the stage assembly, sufficient to route the pixel data to one of the components of the rasterization pipeline;

processing the pixel data with the component to provide resultant pixel data; and

selecting a second multiplexer, whose inputs are received from different components of the rasterization pipeline, sufficient to route the resultant pixel data to the stage assembly.

54. (Original) The method of claim 53, wherein said act of selecting the first multiplexer can be performed such that the alpha blending component is not the last component in the rasterization pipeline to process the pixel data.

55. (Original) The method of claim 53, wherein the first multiplexer comprises one multiplexer of a first group of multiplexers, and the second multiplexer comprises one multiplexer of a second group of multiplexers, each individual multiplexer of the first group having an output that is associated with a respective one of the components of the rasterization pipeline, each individual multiplexer of the second group having an output that is associated with a different respective stage of the stage assembly.

56. (Original) A method comprising:

associating a stage assembly with an arbitrary ordering component, the stage assembly comprising a plurality of stages configured to receive data that is to be processed by a rasterization pipeline, the arbitrary ordering component being configured to enable an arbitrary order of components of the rasterization pipeline to be specified for processing data from the stage assembly; and

associating a rasterization pipeline with the arbitrary ordering component, the rasterization pipeline comprising a plurality of components configured to process data from the stage assembly.

57. (Original) The method of claim 56, wherein the act of associating the stage assembly comprises associating the stage assembly with a rasterization pipeline comprising at least one alpha blending component, the arbitrary ordering component being configured to enable the alpha blending component to process the data before another component of the rasterization pipeline.

58. (Original) The method of claim 56, wherein the act of associating the stage assembly comprises associating the stage assembly with a rasterization pipeline comprising at least one fog component, at least one alpha blending component, and at least one texture component, the arbitrary ordering component being configured to enable the alpha blending component to process the data before another component of the rasterization pipeline.

59. (Original) The method of claim 56, wherein the act of associating the stage assembly comprises associating the stage assembly with a rasterization pipeline comprising at least one fog component, at least one alpha blending component, at least one texture component, and at least one specular component, the arbitrary ordering component being configured to enable the alpha blending component to process the data before another component of the rasterization pipeline.

60. (Original) The method of claim 56, wherein the acts of associating are performed by operably connecting a plurality of multiplexers between the stage assembly and rasterization pipeline, wherein at least some of the multiplexers route pixel data from the stage assembly to the rasterization pipeline, and at least other of the multiplexers route resultant pixel data from the rasterization pipeline to the stage assembly.